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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,742	08/29/2003	David G. Kraenzle	8935-000002/US/COA	9413
28997	7590	02/09/2005	EXAMINER	
HARNESS, DICKEY, & PIERCE, P.L.C 7700 BONHOMME, STE 400 ST. LOUIS, MO 63105			WEEKS, GLORIA R	
			ART UNIT	PAPER NUMBER
			3721	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,742

Applicant(s)

KRAENZLE, DAVID G.

Examiner

Gloria R Weeks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
4a) Of the above claim(s) 16-28, 48 and 49 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-15, 29-47, 50 and 51 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/24/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

Election/Restrictions

1. Claims 16-28, 48 and 49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply received on December 13, 2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 7-9, 29, 30, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (USPN 5,247,733) in view of Bailey (USPN 5,683,247).

In reference to claims 1-2, 7-9, 29, 30, 50 and 51, Kubota et al. discloses a machine adapted to assemble a product, the product having a body (13), first and second gears (16a, 16b) an additional component (17), the machine comprising: feeders for automatically supplying the component parts (21a, 21b); contiguous assembly stations (ST1-ST8) coupled to the feeders for receiving the component parts (13, 16a, 16b, 17) and for performing assembly steps of the product; a body station (ST1-ST2) for receiving and holding the body (13) of the product; at least two gear stations (ST3-ST6) for introducing the first and second gears (16a, 16b) of the product into the body (13); a lubricating station (ST-7) for applying lubricant to the gears (16a-16c) of the product (column 8, lines 45-58; column 9, lines 36-44); a tool station (ST3) for connecting the additional component (17) to the second gear (16b) of the product; and a sensor (30) for detecting the presence of the body (13), the first and second gears (16a, 16b) and the tool (17) to ensure that the product

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has been properly assembled (column 13, lines 23-25). Although the additional component attached to the second gear is not a tool, it would have been obvious to attach any desired component, such as a tool, in place of the component disclosed.

The product assembled by Kubota et al. is not disclosed to be the specific dental product claimed by applicant, however, Kubota et al. does state that an array of products could be assembled by the machine disclosed (column 1, lines 5-21, 58-68; column 2, lines 1-2). Bailey et al. teaches assembling a dental product using components comprising of a body (3), first and second gears (17, 50), and a tool (73). It would have been obvious to one having ordinary skill in the art at the time the invention was made to assemble the product of Bailey et al. using the machine of Kubota et al. for the process of making the dental product in larger quantities while reducing the cost of manufacturing.

Regarding claim 29, Kubota et al. discloses a machine for assembling a product, the product comprising a body (13) and first and second gears (16a, 16b), the machine comprising: a movable table (22); a plurality of fixtures (3) located on the movable table (22) for holding the body (13) of the product during phases of assembly (column 5, lines 19-25); a plurality of station (ST1-ST8) that perform steps of assembly of the product in sequence with the movable table 22); a body feeder (table 2) for supplying the body (13) to a body isolator (21a), the body isolator (21a) isolating the single body (13) from the body feeder (column 6, lines 51-64), and a body pick-and-place unit (21a) for moving the isolated body (13) from the body isolator (21a) to one of the fixtures; a first gear feeder (29) supplying the first gear (16a) to a first gear isolator (21a) isolating a single first gear (16a) from the first gear feeder (29), and a first gear pick-and place unit (21a) for moving the isolated first gear (16a) from the first gear isolator to one of the fixtures (12a) on which a body (13) is located; and a second gear feeder (29) supplying the second gear (16b) to a first gear isolator

(21a) isolating a single second gear (16b) from the second gear feeder (29), and a second gear pick-and place unit (21a) for moving the isolated second gear (16b) from the second gear isolator to one of the fixtures (12b) on which a body (13) is located (column 8, lines 45-64). The product assembled by Kubota et al. is not disclosed to be the specific dental product claimed by applicant, however, Kubota et al. does state that an array of products could be assembled by the machine disclosed (column 1, lines 5-21, 58-68; column 2, lines 1-2). Bailey et al. teaches assembling a dental product using components comprising of a body (3), first and second gears (17, 50), and a tool (73). It would have been obvious to one having ordinary skill in the art at the time the invention was made to assemble the product of Bailey et al. using the machine of Kubota et al. for the process of making the dental product in larger quantities while reducing the cost of manufacturing.

With respect to claim 30 and its limitations as stated above, the modified apparatus of Kubota et al. discloses a machine wherein the product comprises a tool (17) and the machine further comprising a tool feeder (29) for supplying the tool (17) to a tool isolator (30), the tool isolator (30) isolating a single tool (17) from the tool feeder (29), and a tool pick-and-place unit () for moving the isolated tool (17) from the tool isolator (30) and placing it on the second gear (16b; column 5, lines 50-56; column 9, lines 3-20).

4. Claims 3-6 and 11-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (USPN 5,247,733) in view of Bailey (USPN 5,683,247) as applied to claims 1 and 7 above, and further in view of Nakagawa et al. (USPN 6,460,312) and Kitagawa et al. (USPN 5,622,025).

With respect to claim 3, 4, 11 and 12 and their limitations as stated above, the modified apparatus of Kubota et al. discloses moving assembled products to a finished product container (31), but does not disclose any further packaging of the finished products. Nakagawa et al. teaches

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an apparatus for packaging products in bags (M1), comprising a first conveyor (100) for moving products to a bagging unit (200); a second conveyor (600) for moving bagged products (M1) to a batch-counting unit (700); an accumulating conveyor for supplying containers (B) to the batch-counting unit (700) and for moving containers (B) with the bagged products (M1) to an unloading station. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the machine of Kubota et al. to include the packaging assembly of Nakagawa et al. for the purpose of maintaining the assembled products in a sterile environment, and to prevent damage during shipping.

In reference to claims 5, 6, 13 and 14, the modified apparatus of Kubota et al. in view of Nakagawa et al. discloses an assembly and packaging system, but does not specifically disclose the use of packaging assembly having a first and second accumulating conveyor and a container sealing unit. Kitagawa et al. discloses a packaging apparatus having a bagging unit (W); a conveyor for moving bagged products (X) to a batch-counting unit (P4); a first accumulating conveyor (101) for supplying containers (Y) to the batch-counting unit (P4); and a second accumulating conveyor (103) for moving the bagged product (X) filled container (Y) to a sealing and unloading station. It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the packaging system of Kubota et al. in view of Nakagawa et al. to include the first and second accumulating conveyor of Kitagawa et al. for the purpose of separately controlling the supply of containers from the discharge of containers.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (USPN 5,247,733) in view of Bailey (USPN 5,683,247) as applied to claim 9 above, and further in view of Fleming et al. (USPN 4,971,189).

In reference to claim 10 and its limitations as stated above, the modified apparatus of Kubota et al. discloses a machine for assembling components to form a product, using a processor (30) to monitor the presence and proper assembly of the components of the product. Kubota et al. in view of Bailey does not disclose a diverter for separating misassembled products from correctly assembled products. Fleming et al. teaches a machine with multiple stations for assembling components to manufacture a product using conveying means to transport the product as assembled, as well as sensors for detecting the presence of a properly assembled product and a product diverter for separating assembled products having missing components (column 2, lines 45-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the machine of Kubota et al. to include the product diverter of Fleming et al. for the purpose of redirecting an misassembled products to prevent them from being bagged and packaged.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (USPN 5,247,733) in view of Bailey (USPN 5,683,247), Fleming et al. (USPN 4,971,189), and Nakagawa et al. (USPN 6,460,312) and Kitagawa et al. (USPN 5,622,025).

Kubota et al. discloses a machine adapted to assemble a product, the product having a body (13), first and second gears (16a, 16b) and a tool (17), the machine comprising: feeders for automatically supplying the component parts (21a, 21b); contiguous assembly stations (ST1-ST8) coupled to the feeders for receiving the component parts (13, 16a, 16b, 17) and for performing assembly steps of the product, the assembly stations comprising a body station (ST1-ST2) for receiving and holding the body (13) of the product, at least two gear stations (ST3-ST6) for introducing the first and second gears (16a, 16b) of the product into the body (13), and a tool station (ST3) for connecting the tool (17) to the second gear (16b) of the product. The product assembled by Kubota et al. is not disclosed to be the specific dental product claimed by applicant, however,

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Kubota et al. does state that an array of products could be assembled by the machine disclosed (column 1, lines 5-21, 58-68; column 2, lines 1-2). Bailey et al. teaches assembling a dental product using components comprising of a body (3), first and second gears (17, 50), and a tool (73) which is a prophylactic cup. It would have been obvious to one having ordinary skill in the art at the time the invention was made to assemble the product of Bailey et al. using the machine of Kubota et al. for the process of making the dental product in larger quantities while reducing the cost of manufacturing.

The modified apparatus of Kubota et al. discloses a machine for assembling components to form a product, using a processor (30) to monitor the presence and proper assembly of the components of the product. Kubota et al. in view of Bailey does not disclose a diverter for separating misassembled products from correctly assembled products. Fleming et al. teaches a machine with multiple stations for assembling components to manufacture a product using conveying means to transport the product as assembled, as well as sensors for detecting the presence of a properly assembled product and a product diverter for separating assembled products having missing components (column 2, lines 45-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the machine of Kubota et al. to include the product diverter of Fleming et al. for the purpose of redirecting an misassembled products to prevent them from being bagged and packaged.

The modified apparatus of Kubota et al. discloses moving assembled products to a finished product container (31), but does not disclose any further packaging of the finished products. Nakagawa et al. teaches an apparatus for packaging products in bags (M1), comprising a first conveyor (100) for moving products to a bagging unit (200); a second conveyor (600) for moving bagged products (M1) to a batch-counting unit (700); an accumulating conveyor for supplying

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containers (B) to the batch-counting unit (700) and for moving containers (B) with the bagged products (M1) to an unloading station. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the machine of Kubota et al. to include the packaging assembly of Nakagawa et al. for the purpose of maintaining the assembled products in a sterile environment, and to prevent damage during shipping.

The further modified apparatus of Kubota et al. in view of Nakagawa et al. discloses an assembly and packaging system, but does not specifically disclose the use of packaging assembly having a first and second accumulating conveyor and a container sealing unit. Kitagawa et al. discloses a packaging apparatus having a bagging unit (W); a conveyor for moving bagged products (X) to a batch-counting unit (P4); a first accumulating conveyor (101) for supplying containers (Y) to the batch-counting unit (P4); and a second accumulating conveyor (103) for moving the bagged product (X) filled container (Y) to a sealing and unloading station. It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the packaging system of Kubota et al. in view of Nakagawa et al. to include the first and second accumulating conveyor of Kitagawa et al. for the purpose of separately controlling the supply of containers from the discharge of containers.

7. Claims 31-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (USPN 5,247,733) in view of Gamberg et al. (USPN 4,184,840).

In reference to claims 31, 33, 37, 39 and 44, Kubota et al. discloses a machine for assembling a product, the product comprising a body (13) and first and second gears (16a, 16b), the

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machine comprising: a plurality of mounting posts¹ (3) for supporting the product being assembled, a movable table (22) for supporting the plurality of mounting areas through a plurality of stations of assembly (column 5, lines 19-25); a body station (table 2) having a body feeder for orienting a body (13) on the mounting area (23) at the body station; a first gear member station (29) having a first gear feeder for orienting a first gear (16a) on the body in the mounting area ; a second gear station (29) having a second gear feeder for orienting a second gear (16b) on the body in the mounting area; a lubrication station (ST-7); and a station which feeds and attaches a third component on the body on the mounting area at the tool station (column 8, lines 45-64). Although the third component of Kubota et al. is not the claimed tool of the Applicant, it would have been obvious to one having ordinary skill at the time the invention was made to substitute the third component of Kubota et al. with any desired component, such as the claimed product, since Kubota et al. is not limited to the production of one specific product.

Furthermore, Applicant's invention is drawn to an apparatus and the structural limitations that define the apparatus, not the use of the apparatus. Bailey et al. teaches assembling a dental product using components comprising of a body (3), first and second gears (17, 50), and a tool (73). Since Kubota et al. does state that an array of products could be assembled by the machine disclosed (column 1, lines 5-21, 58-68; column 2, lines 1-2), it would have been obvious to one having ordinary skill in the art at the time the invention was made to assemble the product of Bailey et al. using the machine of Kubota et al. for the process of making the dental product in larger quantities while reducing the cost of manufacturing.

¹post (post) *noun* n assigned position or station, *The American Heritage® Dictionary of the English Language, Third Edition* copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation; further reproduction and distribution restricted in accordance with the Copyright Law of the United States. All rights reserved.

In reference to claims 32, 38 and their limitations as stated above, Kubota et al. discloses a system and machine for assembling a product including a plurality of assembly stations, however, Kubota et al. does not disclose the use of a closing station. Examiner takes Official Notice that the use of closing stations is well known in the art of assembly of products with hinged elements. This knowledge is supported in prior art Ilseman (USPN 4,685,277).

Regarding claims 34-36, 41-43 and 45-47 Kubota et al. does not specifically disclose whether or not the mounting post is a pocket or a vertical support, Gamberg et al. teaches a rotary support table having mounting posts (32) adapted to support an workpiece internally (figure 9) withough any contact with the exterior of the workpiece. It would have been obvious to one having ordinary skills in the art to modify the mounting posts of Kubota et al. to the mounting posts of Gamber et al. for the purpose of supporting a workpiece internally, thus allowing for unobstructed external treatment of the workpiece. Although Gamberg et al. does not disclose a mounting post having a passageway positioned for alignment with a shaft of the workpiece, Examiner takes Official Notice that the use of a "key and slot" mechanism is well known in the art of mounting objects for the purpose of securing or locking elements onto a surface.

Conclusion

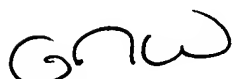
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to attachment for notice of references cited and recommended for consideration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gloria R Weeks whose telephone number is (703) 605-4211. The examiner can normally be reached on 9:30 am - 8:00 pm Monday-Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I Rada can be reached on (703) 305-2187. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7769 for regular communications and (703) 308-7769 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-1789.


grw
February 3, 2005

Gloria R Weeks
Examiner
Art Unit 3721


Rinaldi I. Rada
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